AMENDMENTS TO THE SPECIFICATION:

Insert the following heading on page 1, before line 5:

--Field of the Invention—

Insert the following heading on page 1, before line 9:

--Background of the Invention--

Please replace the paragraph beginning on page 1, line 31 and ending on page 2, line 15, with the following amended paragraph:

In floor heating systems the individual heating circuits provide different flow resistances to the heat carrying medium. In this connection, a heating circuit comprises a heat exchanger with its inlets and outlets, however, distinguishing between the heat exchanger and the inlet often being difficult in floor heating systems. The different flow resistances are, for example caused by the fact that one heating circuit must supply a larger room than another and therefore the pipe in the floor is longer. When two such heating circuits with different resistances report a heat demand at the same time, the larger share of the heat carrying medium will flow into the heating circuit with the smallest resistance. This is unfavourable, as the heating circuit then does not [[utilises]] utilise the total heat of the heat carrying medium, which increases the return temperature from this heating circuit. At the same time, the other heating circuit does not get sufficient heat carrying medium, so that here the heat supply is insufficient.

Please replace the paragraph beginning on page 3, line 1, with the following amended paragraph:

This method is practised in [[much]] such case at present. However, it is not always satisfactory. Firstly, each heating circuit needs a throttle, which is accessible from the outside, by means of which the flow resistance can be adjusted. Secondly, a calculation of the setting is required. This is often made in that the flow resistance of the individual heating circuit is calculated. In many cases, such a calculation is not very exact. More exact settings can be made by means of a measuring of the flow resistance or the volume flow through the individual heating circuits. However, this method is relatively expensive. By means of the measured or calculated values, the individual heating circuits must be set.

Please replace the paragraph beginning on page 3, line 23, with the following amended paragraph:

A room [[turning]] facing south, which is more frequently exposed to sun radiation, will have a different heat demand than a room on the weather side, for example [[turning]] facing north.

Insert the following heading on page 3, before line 27:

--Summary of the Invention—

Please replace the paragraph beginning on page 4, line 10 and ending on page 5, line 28, with the following amended paragraph:

With this method, the heat exchanger having the largest consumption of heat carrying medium is, in a manner of speaking, "punished". In the future, it will receive a smaller share of the heat carrying medium, in that it's setting is changed, meaning that, for example, the flow amount is reduced. Here, there are several possibilities, which will be explained in the following. For example, a specific size can be used, which is formed by a ratio between opening times of a valve controlling the flow amount of a heat carrying medium through the heat exchanger, and the predetermined period, or by a desired value deviation. The correction then occurs in that the ratio of the opening times to the predetermined period in the first case or the desired value deviation in the second case is reduced. Sooner or later, this will ensure that all heat exchangers get the same priority, in that all heat exchangers have the same resistance and thus can demand the same heat amount. This is the object of the control. Thus, also the volume flow through the heat exchangers is maximised, which is a clear advantage, for example in connection with floor heating systems, as thus differences in the surface temperature of the floor can be avoided. The specific size used is, for example as mentioned above, in a first case a ratio between opening times of a valve, which controls the flow amount of the heat carrying medium through the heat exchanger and the predetermined period. In other words, a duty [[cycleof]] cycle of the valve is used. When, in the predetermined period of, for example 48 hours, the valve is open for twelve hours, the ratio is 0.25. Usually, a heat exchanger with a small resistance has a small opening ratio, and a heat exchanger with a large resistance has a large opening ratio (of course on condition that the variations of the heat demand and of the floor design are small). Now, with a heat exchanger, whose valve has a small opening ratio, the setting can

be changed so that the flow amount is reduced. In this case, the valve is forced to remain open longer, to permit the required amount of heat carrying fluid to pass to the heat exchanger. In a further embodiment, a desired value deviation of each heat exchanger can be determined as specific size and a setting of the heat exchanger with the smallest desired value deviation can be made. The heat exchanger having the smallest desired value deviation is thus "punished", as in the future it will receive less heat carrying medium. In many cases, the desired value deviation is easily determined, as it is needed for the operation of a controller anyway. In order to simplify the understanding, the following description is based on the assumption that with a small heat demand the specific size is large and with a large heat demand the specific size is small. Depending of the concrete determination of the specific size, the conditions can also be vice versa.

Please replace the paragraph beginning on page 6, line 23, with the following amended paragraph:

In a particularly preferred embodiment, it can be endeavoured that an opening period in the range from 50 to 80% of the predetermined period is set for all heat exchangers. For example, it may be ensured that the final result for all heat exchangers, or rather, their valves will be a duty [[cycleof]] cycle of 0.6. This means that all valves are open for 60% of their predetermined periods. The exact values of course also depend on the inlet temperature of the system, in which the heat exchangers are located.

Please replace the paragraph beginning on page 7, line 31 and ending on page 8, line 5, with the following amended paragraph:

Alternatively or additionally, a pressure difference over the heat exchanger can be changed. With the same opening width of the valve, a larger pressure difference will cause an increased flow amount. The pressure difference can, for example, be changed in that a throttle [[wit]] with a larger or smaller flow resistance is arranged at the inlet or at the outlet. Also a pump control can be used to change the pressure difference.

Insert the following heading on page 8, before line 19:

--Brief Description of the Drawings—

Please replace the paragraph beginning on page 8, line 19, with the following amended paragraph:

In the following, the invention is described in detail on the basis of preferred embodiments in connection with the drawings, showing:

Fig. 1 a schematic view of a heating [[system]] system,

Fig. 2 a schematic view of a control circuit for a heat [[exchanger]] exchanger,

Fig. 3 a schematic view of a [[controller]] controller,

Fig. 4 several time courses explaining the controller according to [[Fig. 3]] Fig. 3,

Fig. 5 another embodiment of a [[controller]] controller,

Fig. 6 views explaining the mode of functioning of the controller according to [[Fig. 5]] Fig. 5.

Insert the following heading on page 9, before line 5:

--Description of the Preferred Embodiments—

Please replace the paragraph beginning on page 11, line 29 and ending on page 12, line 4, with the following amended paragraph:

Additionally, the flow resistance of the heat exchanger is not necessarily the only criterion. Also the heat resistance of the floor or the heat demand of the room are criteria for the required amount of heating water of the individual heat exchanger to produce the desired temperature in the room in the most efficient manner. For example, it makes a difference, if the floor is covered by a carpet or by floor tiles. Also a room [[turning]] facing south will need less heating water than a room [[turning]] facing north.

Please replace the paragraph beginning on page 15, line 28, and ending on page 16, line 6, with the following amended paragraph:

Under the punishment signal 37, the unprocessed control signal [[4o]] 40 for the valve 19 is shown. This control signal 40 is now logically linked with the punishment signal to get the actual control signal 41. The actual control signal 41 is only "on"; when both the unprocessed control signal 40 and the punishment signal 37 are "on". In the remaining periods, the processed control signal 41 is "off". In this manner, the flow through the heat exchanger 6 can be reduced. It can be seen that

with a larger opening ratio the curve 39 is displaced upwards, so that the punishment signal 37 "cuts off" less shares from the unprocessed control signal 40.